

## Emergency Management Competency 1.2

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**Competency 1.2** Emergency management personnel shall demonstrate a working level knowledge of hazardous material safety to oversee emergency activities and to provide guidance in mitigating emergencies.

### 1. Supporting Knowledge and Skills

- a. Discuss the concerns associated with the use of hazardous materials.
- b. Discuss the general safety precautions necessary for the handling, storage, and disposal of hazardous materials, to include explosive, flammable and combustible substances.
- c. Describe the types, uses, and limitations of chemical detection and monitoring equipment.
- d. Discuss the emergency procedures associated with accidental releases of hazardous materials to the environment, including: notifications, protective equipment, decontamination activities, and emergency rescue and treatment.

### 2. Self-Study Activities (corresponding to the intent of the above competency)

Below are two web sites containing many of the references you may need.

Web Sites		
Organization	Site Location	Notes
Department of Energy	<a href="http://wastenot.inel.gov/cted/stdguido.html">http://wastenot.inel.gov/cted/stdguido.html</a>	DOE Standards, Guides, and Orders
U.S. House of Representatives	<a href="http://law.house.gov/cfr.htm">http://law.house.gov/cfr.htm</a>	Searchable Code of Federal Regulations

**Read** 29 *Code of Federal Regulations* (CFR) 1910.120, "Hazardous Waste Operations and Emergency Response," (a) Scope, Application, and Definitions.

EXERCISE 1.2-A What is the major concern associated with the use of hazardous materials?

## Emergency Management Competency 1.2

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**Read** 29 CFR 1910.119, (d) “Process Safety Information.”

EXERCISE 1.2-B Prior to conducting a hazard analysis, the employer must compile the written process safety information. Why?

**Read** National Fire Protection Association (NFPA) 471, “Recommended Practice for Responding to Hazardous Materials Incidents,” Section 4-5, Monitoring Equipment, pages 471-7 and -8.

EXERCISE 1.2-C List five examples of monitoring equipment that might be used for a hazardous materials response.

**Read** the DOE Emergency Management Guide *Interim Guidance for Protective Actions*, Section C, Guidance, pages 4 through 15.

**Read** the DOE Emergency Management Guide *Interim Guidance for Emergency Medical Support*, Section D through H, pages 3 and 4.

EXERCISE 1.2-D Where should decontamination be carried out, if possible?

EXERCISE 1.2-E What are the primary responsibilities of the rescue team?

### 3. Summary

Operations involving hazardous materials are of major concern both within DOE and outside the Department. Employee communication concerning the presence of hazardous materials and the safety precautions to be followed around the materials is of utmost importance. This is followed by the existence of an emergency response and preparedness plan and training/drills/exercises in the emergencies that might occur.

### 4. Exercise Solutions

EXERCISE 1.2-A What is the **major** concern associated with the use of hazardous materials?

ANSWER 1.2-A The safety and health risks to the employee.

## Emergency Management Competency 1.2

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EXERCISE 1.2-B Prior to conducting a hazard analysis, the employer must compile the written process safety information. Why?

ANSWER 1.2-B To enable the employer and employees involved in operating the process to identify and understand the hazards posed by those processes involving highly hazardous chemicals.

EXERCISE 1.2-C List five examples of monitoring equipment that might be used for a hazardous materials response.

ANSWER 1.2-C Any five of the following: oxygen meters, combustible gas indicators (explosimeters), CO meters, pH meters, radiation detection instruments, calorimetric detector tubes, organic vapor analyzers, photoionization meters, air sampling devices, pH paper or strips, organic vapor badges or film strips, mercury badges, or formaldehyde badges or strips.

EXERCISE 1.2-D Where should decontamination be carried out, if possible?

ANSWER 1.2-D Decontamination should be done in existing facilities, if possible. If facilities do not exist on the site, identify alternate methods or temporary facilities.

EXERCISE 1.2-E What are the primary responsibilities of the rescue team?

ANSWER 1.2-E The primary responsibilities of the rescue team are to provide immediate lifesaving aid and remove victims from dangerous scenes or contaminated areas, remove gross contamination from victims, and transfer the victim to medical personnel.